



Increment 3 NASA Payloads and Experiments

Code M

Externally Mounted Payload **Materials ISS Experiment (MISSE)**

RESEARCH OBJECTIVES

MISSE is designed to passively collect data on materials exposed to the space environment related to contamination and material degradation during the Solar Maximum period. Approximately 1500 samples are to be exposed, consisting of switches, sensors, and mirrors, polymers, coatings, composites and biological materials as seeds, spores and bacteria. It is desired that the materials be exposed to space for at least one year.

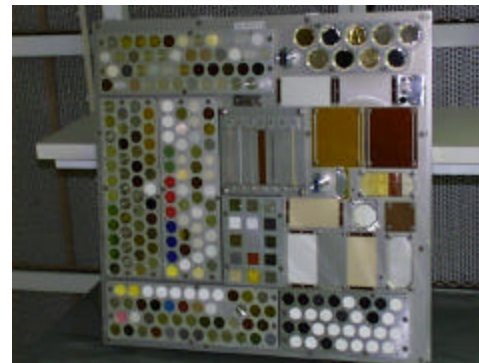
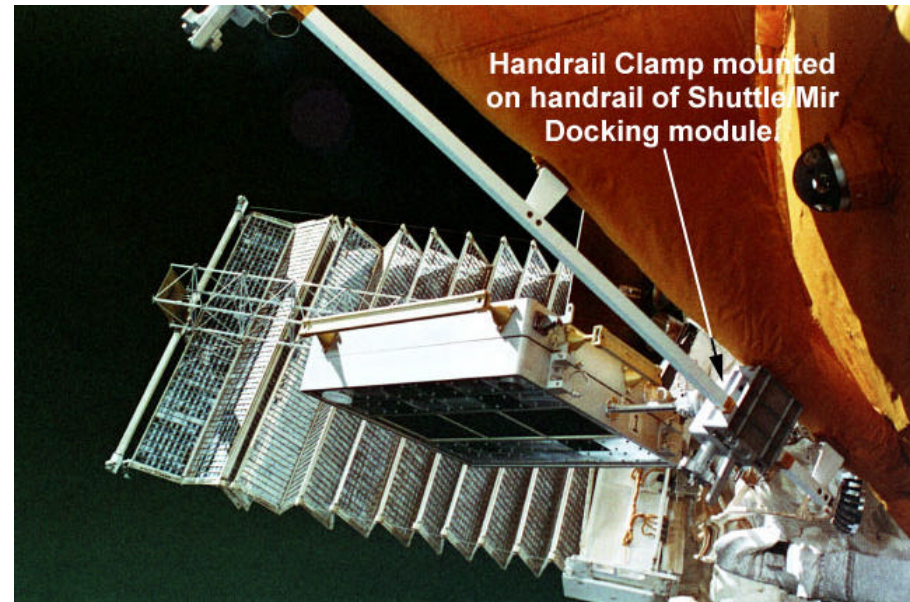
HARDWARE DESCRIPTION

MISSE hardware consists of 2 Passive Experiment Carriers (PECs) and unique PEC handrail clamp/pointer assemblies.

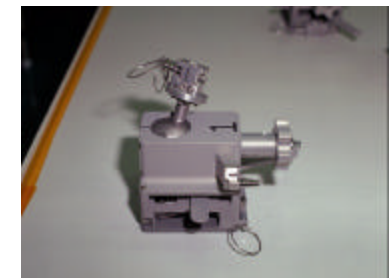
FLIGHT OPERATIONS SUMMARY

The STS crew will perform an EVA to install and deploy the PECs externally on the ISS. One PEC will be installed on an Airlock end cone handrail; the other PEC will be installed on an High Pressure Gas Tank handrail. One PEC will be oriented in the ISS ram direction; the other will be oriented in the wake direction.

PD: Junilla Applin/LaRC



Typical Material Specimen Arrangement in PEC



Clamp/Pointer Assembly